# ENGINEERING NEWS-RECORD

Marine engineers build a cocoanut-log bridge across Bonegi River on Guadalcanal.

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# Building 3 New Bridges from 2 Old Ones

The Army needed quickly three steel railroad bridges to connect two parts of a Tennessee ordnance plant split by three channels of a wide, shallow river. Because new steel was not immediately available, the Army decided to build the bridges from parts of two very old, abandoned bridges.

Bethlehem's job consisted of taking down nine truss spans from the two old crossings, making alterations and rearrangements, and re-erecting the 1243 tons of old steel-work into the new bridges.

Many difficulties were met. The two crossings had a 45 deg. skew at each end which had to be eliminated. All of the truss spans were pin-connected. The removal of these pins, which were "frozen" fast with rust, was a problem. Falsework had to be built to support every panel point, as the members were removed and re-erected. Each member had to be marked so that it would be re-erected in precisely the same position in the new structure. Dismantling was complicated by transportation difficulties and proceeded slowly, because only one span could be taken apart at a time, using only two derricks. And 31,000 rivets had to be cut out and later redriven.

Despite these difficulties, Bethlehem crews, working nine hours a day, six days a week, completed the entire removal operation in three months. This is an average of only ten calendar days per span, including holidays. About the same number of man-hours was ne to erect the new bridge.

Made necessary by wartime ditions, the successful compl of this job is an example o flexibility and versatility of Be hem's Fabricated Steel Cons tion Division. The organizatio built these three new struc from two old bridges is the organization that has constru in record time hundreds of of tank factories, airplane pl shipbuilding ways, and many units of the arsenal of democ

★ ★ BETHLEHEM STEEL ★

*he Week* **In Engineering and Construction**

EERING NEWS-RECORD • JUNE 10, 1943 • VOLUME 130 • NUMBER 23

# my to use war prisoners non-military projects

## cipal employment will be on agriculture, but use of prisoners on construction operations not connected the war is contemplated by Army authorities

e number of the prisoners of being brought to this country ted to be made available for ion operations that do not pro- war effort. There are 36,000 oners in this country at the ime, but it is reported in Wash- at this number may be in- o 200,000.

emphasis at present is being agriculture, partly because it ed that the prison camps will d chiefly in farming areas, but se agriculture is not considered cted with the war effort and lf well to the making of ade- vision for security of the pris-

s on which the use of prisoners is considered feasible by the nt, next to agriculture, are operations on roads and dams. eral plan, for which more de- l be available within the next two, is to delegate to the com- general of each service com- roughout this country authority arrangements for the use of the s of war in his area, general only being laid down by the partment.

### r prisoners on construction

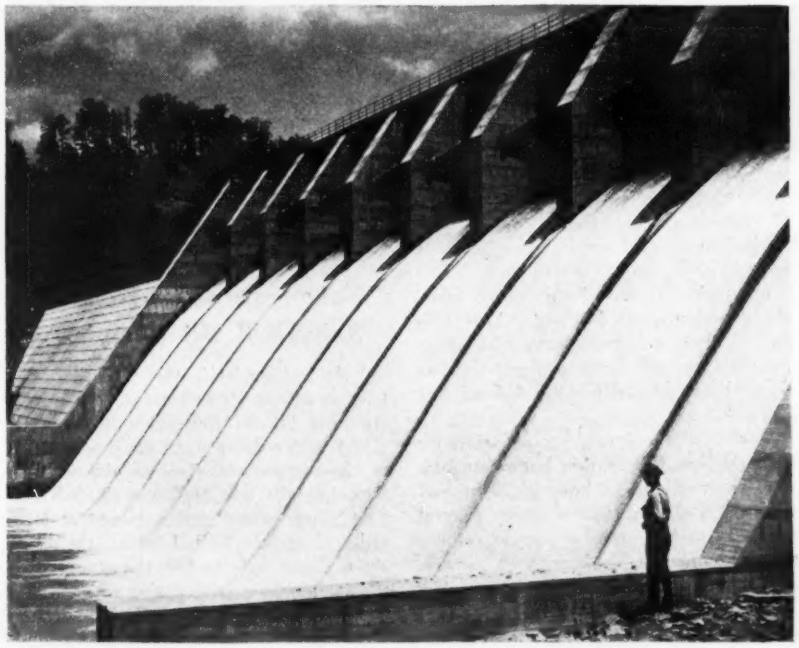
xpected that this labor will be ailable to private employers as to governmental agencies. On tion operations, prisoners of war be used alongside normal labor, the prisoners be used as skilled en. The prisoners will be used on labor in large groups, which uarded easily. They have already used at Denison Dam by the f Engineers for clearing the area on the Oklahoma side. groups also were used on levee uring the recent Mid-west floods, p of about 200 being used near ten, Mo.

peace offering to organized labor —and this affects chiefly the construction trades because of the rapid decline in construction jobs—war-prisoner labor will be made available only in areas where there is an insufficient supply of native labor, as determined by the War Manpower Commission, and then only at prevailing rates of pay.

Under the Geneva convention, prisoners of war can be put to work only on jobs not directly related to the war effort, and only on tasks that are not hazardous or unhealthful. Prisoners who do not work are paid only 10 cents a day, but those who work are paid 80 cents a day. Under the set-up as proposed in this country, the difference between the prevailing rate that is paid by the employer and the 80 cents that the prisoner gets goes chiefly to the government, the employer being permitted to deduct any expenses that would not be incurred with the use of free labor. Social security costs will be paid by the government.

Instructions already have been issued to those in charge of prisoners to find

(*Continued on page* 10)



**Hiwassee River cascades over new Apalachia Dam**

*TVA's newly completed Apalachia Dam, in a remote mountain area of Cherokee County, N. C. is 1,250 ft. long and 150 ft. high, of concrete gravity section with tainter gate controlled spillway. Pending completion of the power installation water must be wasted.*

*Apalachia is different from most TVA dams in that the powerhouse is not at the dam but is 13 river-miles downstream. Water will be carried to it through a 43,000-ft. steel and concrete pipe and tunnel. Because of this feature, the dam, although it is only 150 ft. high, will develop more than 400 ft. of head, rivaling the power head to be provided by Fontana Dam, now under construction by TVA.*

*The reservoir at Apalachia Dam is small, only 36,000 acre-ft. of power storage, but for power it has the advantage of 365,000 acre-ft. of usable water at Hiwassee Dam, above it on the same river.*

# Big new dams proposed at hearings on federal flood-control measures

### At least a dozen large-sized projects are recommended by the Corps of Engineers for design now and construction after the war

For the first time since 1941, Congress is getting ready to act on legislation authorizing additional federal flood-control projects. Hearings are now underway before the House flood-control committee, at which Corps of Engineer officials recommended action last week on more than a dozen large sized dam projects. It is not contemplated that any of these projects will be built during the war, but the intention is to build up a reservoir of authorized projects on which design work can be carried out now, to the extent that funds permit, for construction after the war.

Since the first flood control act in 1936, 485 projects have been authorized at a total cost of $930,000,000. To construct these projects, $526,000,000 has been appropriated. Theoretically, this leaves a substantial backlog of authorized projects, but in practice the authorized list always contains many marginal projects, so it has to be amplified periodically by the addition of more desirable projects.

To date, the flood-control program has produced 38 completed reservoir projects and 92 local protection jobs. Late last year, 35 additional projects that were under construction were halted because of material shortages and another 32 were cut down to the amount of work needed to protect construction already accomplished from destruction. This later work has now been mostly completed and present flood-control work is limited almost exclusively to jobs where the flood hazards have a direct bearing on the war, as certified by federal war agencies.

None of the new projects proposed for authorization fall in this later category. The Army engineers, however, have recommended that Congress grant general authority to undertake a certain amount of war-connected work without specific authorization as necessity arises.

Among the largest of the newly recommended projects is the Williamsville Dam on the Connecticut River. Authorization already exists for a low dam at that site, but the engineers would like permission to spend an additional $30,000,000 and build a high dam for flood control and power.

On the Susquehanna, the engineers suggest three new dams to cost $30,000,000. The Genegantslet and South Plymouth dams would be for flood control; the Raystown Dam would be a multi-purpose structure.

Two large dams are recommended on the upper Ohio. One is the 890,000-acre-ft. Rolesburg reservoir on the Cheat River. This multi-purpose structure is to cost about $29,000,000. The other is the $38,000,000 Youghiogheny multi-purpose reservoir.

On the Ohio River, the engineers are asking authorization of $75,000,000 for six dams—the Conemaugh in Pennsylvania; Falmouth on the Licking River; Dillon, O., on the Muskingum; Sutton, W. Va., on the Elk; Delaware on the Scioto; and Wolf Creek on the Embarrass River in Illinois.

The Army engineer program for the Missouri calls for authorization of $70,000,000 to permit construction of two of the following three dams: Osceola Reservoir on the Osage River, a multi-purpose project with 4,540,000 acre-ft. of storage; Tuttle Creek Reservoir, an earth dam for flood control only, storing 1,180,000 acre-ft. at a cost of $28,000,000; or Harlan County reservoir on the Republican River, also a flood control job, with storage of 939,000 acre-ft.

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## Take legal steps to stop Schuylkill silt dumping

Labor difficulties are not the only trouble of the Pennsylvania coal mines. On May 26 the Pennsylvania Supreme Court ordered up-state coal companies to show cause why they should not stop dumping silt into the Schuylkill River. The "show cause" order, issued at Harrisburg, gave Philadelphia the first round in its fight to halt the clogging of the stream by accumulation of culm.

Action to prevent pollution of the Schuylkill by waste was started originally by the city of Philadelphia and the state of Pennsylvania in 1896 against the Philadelphia and Reading Coal & Iron Company, the Lehigh Coal & Navigation Company, the Broad Mountain Company, the Roberts Coal Company, and the Stoddard Coal Company. In court, after a special master the defendants were polluting held the case in abeyance on ance by the defendants that would cease.

An accumulation of an esti 000,000 tons of silt in the riv between Norristown and Fairm is viewed as a threat to Phi water filtration system and a the city's health.

The Fairmount Park Comm been told by Lt. Col. Daniel of the Corps of Engineers, U. that it would take from thre years to dredge the silt.

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## Western engineers C. E. Webb presider

C. Earl Webb, western divi neer of the American Bridge Chicago, has been elected pre the Western Society of Engineers. Mr. Webb is a graduate civil engineer of Michigan State College and holds membership in a number of professional and honorary engineering societies. His design work on some of the largest and highway bridges through country has been outstanding number of vertical-lift bridges h built following his original desi in 1924. During 1933 he was i of developing the erection sch the suspension-span towers and tilever spans for the San Franci land Bay bridge.

• • •

## Snake River dam to 4,400,000 cu.ft. of wa

The Nez Perce dam, proposed engineers to be built in Snake R miles above Lewiston, would h estimated cost of $133,373,000, ac to Henry Alderman, director of t tion, Bonneville power admini Portland, Ore.

Col. Donald J. Leehey, distri neer, Portland, says that the r of the project would extend 6 upstream and provide 4,400,000 usable storage for downstream re

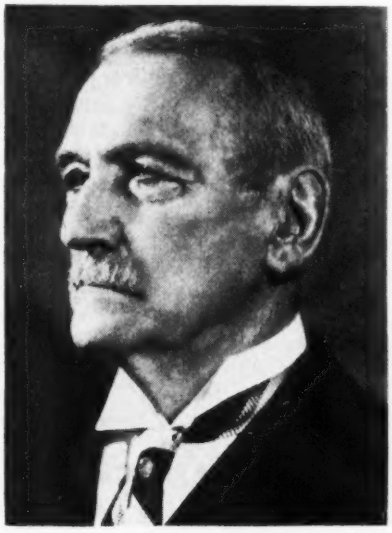
**ENGINEERING NEWS-RECORD.** Published every Thursday. Return postage guaranteed. Vol. 130, No. 23. Price 25c per copy. Allow at least ten days for address. All communications about subscriptions should be addressed to the Director of Circulation, 99-129 N. Broadway, Albany, N. Y., or 330 West 42nd Street, N. Y. Subscriptions, United States, U. S. Possessions and Latin American Republics, $5.00 for one year, $8.00 for two years, $10.00 for three years. Canada $5.50 year, $9.00 for two years, $11.00 for three years. Great Britain and British possessions 54 shillings for one year, 108 shillings for three years. All other countries, one year, $18.00 for three years. Entered as second-class matter October 29, 1936, at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Printed U.S.A. Cable Address: "McGrawhill New York." Member A.P.B. Member A.B.C. Copyright 1943 by McGraw-Hill Publishing Company, Inc. James H. McGraw, and Honorary Chairman; James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President; Mason Britton, Vice-President; B. R. Putnam, Treasurer A. Gerardi, Secretary; J. E. Blackburn, Jr., Circulation Manager. Publication office: 99-129 North Broadway, Albany, N. Y. Editorial and Executive Offices: 330 West New York. District Managers and Branch Offices: Fred G. Hudson, 520 N. Michigan Ave., Chicago; J. W. Otterson, 68 Post St., San Francisco; Aldwych House, London, W. C. 2, England; Washington; J. M. Spackman, New York; A. B. Cozzens, Philadelphia; E. D. Duff, Jr., Cleveland; B. F. Horn, Detroit; Richard St. Louis; E. N. Phelan, Los Angeles; J. I. Ballard, Boston; Ralph Maultsby, Atlanta, Ga.

# n F. Stevens, Panama Canal engineer pioneer railroad builder, dies at 90

, Stevens, the engineer whose organizing ability paved the way for suc- mpletion of the Panama Canal under the direction of Col. George W. died at his home in Southern Pines, N. C., on June 2, in his 90th year.

his notable work at Panama hadowed by the equally note- nd more spectacular work of oethals, John F. Stevens' name will be best known for his a pioneer railroad builder, t reached high points in his of Marias Pass, the route by Great Northern got through y Mountains on its way to the oast, and his subsequent loca- he pass through the Cascade t now bears his name.

n West Gardiner, Me., April 25, . Stevens received a common ducation and studied for two the state normal school prepara- ecoming a teacher. But at 21 oned teaching to take up engi- going first to Minneapolis to the city engineer's office and Texas to start the railroad sur- that was to be his chief occu- r the next two decades. There two years with the Denver & de and two as locating engineer Chicago, Milwaukee & St. Paul and South Dakota.



John F. Stevens

### Met James J. Hill

2 Mr. Stevens went to Canada e engineer for a contractor on ion of the Canadian Pacific Winnipeg, a job that ultimately him into contact with one of t pioneer railroad builders of James J. Hill. The friendship eloped had a profound influence Stevens' future career.

anadian Pacific work lasted un- . There followed two years on th, South Shore & Atlantic, and Mr. Stevens was called upon H. Beckler, chief engineer of at Northern, to locate a line Rocky Mountains. That assign- sulted in his discovery of Marias Dec. 11, 1889. Today, a heroic tatue of Stevens stands in the mark that event. The following undertook the task of finding a r the Great Northern through the Range. He located a route that switchbacks but which could roved by tunnels of reasonable That pass, now unused because els he visualized have been built, rs his name.

the Great Northern under Mr. . Stevens' organizing ability was ed. He soon rose to the position engineer and in 1902 was named general manager. The following year he went to the Chicago, Rock Island & Pacific as chief engineer, two years later becoming vice president.

### Work in Panama

It was from this position that in 1905 President Theodore Roosevelt picked Mr. Stevens to make him chief engineer of the Isthmian Canal Commission to fill the position vacated by John F. Wallace who had resigned because of the handicaps of remote control and red tape under which the commission had to work. Two years later Stevens, who had been promoted to chairman of the commission, resigned for what he characterized as purely personal reasons in no way connected with the canal work. Meanwhile the engineering staff at Panama, made up entirely of civilians except for Col. W. C. Gorgas, noted head of the sanitary work, had put the construction operations on a sound working basis. Of this period Col. Goethals had the following to say: "I found when I went to Panama that his [Stevens'] organization was about as perfect as anyone could make it. The result was that more than half the work was done for me in advance."

Returning to the United States in 1907, Mr. Stevens was at once asked by the directors of the New Haven system to undertake supervision of its modernization. He had been in that work two years when Mr. Hill asked him to undertake extension of the Hill lines into the closely held Harriman lines' territory in Oregon, a difficult diplomatic and strategic assignment that he undertook with enthusiasm, taking personal charge of negotiations that ended in construction of the Oregon Trunk Ry.

### To Russia in 1917

In May, 1917, President Wilson named Mr. Stevens chairman of a commission of railway engineers sent to Russia at the request of the Kerensky government to rehabilitate and operate the rail lines in Siberia. After the revolution he found it necessary to act almost as an independent governor. Two years later he was made president of the Inter-Allied Technical Board with headquarters in Harbin, Manchuria. The history of that outstanding work of American engineers is yet to be published, but it is known that Mr. Stevens was instrumental in checking the Japanese government in its efforts to take over the Russian rail lines in Manchuria. After Allied troops were withdrawn from Siberia in 1923, Mr. Stevens returned to this country to resume consulting engineering work.

Many honors were conferred on Mr. Stevens including the Distinguished Service Medal of the United States government, the John Fritz Medal, highest award of the engineering societies, and many foreign honors. He was elected to honorary membership in the American Society of Civil Engineers in 1922 and was elected president of the society in 1927.

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## Production expedited on construction machinery

Production of construction machinery is being successfully expedited by a special section set up for that purpose within WPB's Construction Machinery and Equipment Division, according to a report issued by the division.

The report shows that 165 requests for assistance in obtaining necessary material have been received by the section from various manufacturers within the last five weeks. In all cases the section has either expedited the orders for critical material or has made surveys for the applicants on the situations of their purchase orders for such materials.

The requests contain from one to fifty items, the average being about five. Approximately two to four working hours are spent by the expediting section in locating sources of supply for a particular item and in notifying the manufacturer of the location of the available item. As the material shortage becomes more severe, according to the report, the number of requests for expediting assistance is expected to increase.

## Travel opening postponed on Inter-American road

The official inauguration of travel over the Inter-American highway, scheduled for July 1, has been postponed indefinitely, according to Chief E. W. James, Inter-American Regional Office, U. S. Public Roads Administration.

James said the delay was caused by certain contractors being unable to obtain enough steel for bridges even though they have federal allocations for the steel. So an additional year has been granted them.

Panama is the only country which will have its road completed by July 1. The Mexico City-to-Oaxaca link of the highway was formally opened May 5 by President Avila Comacho of Mexico, but below Oaxaca, several hundred miles of road to the border of Guatemala are yet to be completed.

Guatemala has completed all macadam surfacing and graveling of the road. San Salvador should have all essential paving, except 30 kilometers, finished by January 1 next.

Honduras should finish all road surfacing by the end of 1943. Seventy-five percent of the work has been finished in northern Nicaragua and the plan has been fulfilled in the soûthern part.

Costa Rica has finished a half of the northern road and a fourth of the southern road. There will be 123 bridges on the highway through Costa Rica. Buses now use a gravel road from Honduras to Managua.

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## New Tacoma span approved by experts

A board of technical experts working with the Washington State Toll Bridge Authority met recently at Tacoma with Burwell Bantz, state highway engineer, and approved plans for the general design of a new bridge across the Narrows of Puget Sound near Tacoma, to replace the suspension structure which collapsed several years ago.

On the board are Glenn B. Woodruff of Berkeley, Calif.; John I. Parcel of St. Louis, Mo., and Theodore Von Carmen, aerodynamics director of the Guggenheim Foundation of the California Institute of Technology.

The new plans, as prepared by C. E. Andrew, engineer for the toll bridge authority, call for a four-lane bridge with a concrete deck, the towers to be 56 ft. higher than those of the old bridge. Besides being wider and heavier, the proposed new span would have a truss girder 33 ft. below the deck, more than four times as deep as the 8-ft. solid plate girder on the first structure. Construction will not be started until after the war.

# Inter-Amer

EDITOR'S NOTE: Another vital war transport route—the American Highway—is being pushed to completion in America. Working with local governments, the U. S. Public Administration is carrying out the construction with North can contractors handling sections of the job. The Corps o neers is pushing through a pioneer road in certain areas with Several weeks ago *Engineering News-Record* dispatched on editors, A. N. Carter, to the scene to bring back a first-hand of how roadbuilding is being handled under the tropical co found in Central America. Mr. Carter, who is visiting all th now in progress from Mexico to Panama, has sent the fo notes from the field. This is the first installment of his day activities in covering the Inter-American project, a strate in the Pan-American highway system.

Mr. Carter left New York on April 23, reporting first to t Angeles district office of the Corps of Engineers, which is th quarters for the Army operations.

**A. N. Carter,** Assistant Editor, Engineering News-Reco

**April 27**—Arrived at Mexico City by Pan-American Airways at noon after an all-night flight from Los Angeles in company with Maj. F. S. McNamara, deputy director of the Army work on the highway, and John Parkinson, superintendent of transportation for the Army Engineers. Soon after Major McNamara, Parkinson and I had checked in at the Hotel Geneva, Col. Edwin C. Kelton, director of the Army highway operations, arrived. He had made the flight from Washington to Mexico City via Brownsville, Tex. The four of us, in company with Walter Halpin and Ray Romana, chief administrator and expeditor, respectively, for Swinterton-McClure-Vinnell, contractors for a section of the work in Honduras and Nicaragua, spent the evening at the Papillon Club where good steaks are not rationed.

It is our plan to make a quick trip the full length of highway, starting at the Mexican-Guatemalan border, and then work back over the route to get detailed information.

**April 28**—In company with Colonel Kelton and Major McNamara we took off by Pan-American Airways for Tapachula, Mex. Two other engineers have joined our party. They are: Brynn Belyea, president of the Belyea Truck Co., and the Pacific Crane and Rigging Co., and a consultant on transportation for the office of the Coordinator of Inter-American Affairs, and F. D. Rugg, also with coordinator's office Belyea and Rugg are to accom on the trip over the highway.

We arrived at Tapachula, about 650 air miles to the so and but a few miles from the malan border, at about 4:30 p.m the northern terminal of the 1,5 Inter-American Highway over we are to travel. Equipment a plies needed for the northern of the highway may be shipped h then must be moved to the point by truck, ox cart, or whatever can be arranged.

Maj. Maurice C. Tobin, reside neer on all construction in Gua and Ray E. De Groff, principa tant to Major Tobin, met us station wagon to start our trip o highway. A few miles from the we reached the Suchiate Riv boundary between Mexico and mala. Crossing the river on a completed a few years ago by t governments, we transferred to on the Guatemalan side in o traverse a section of the road 250,000 cu.yd. of cut are requi less than a mile. Colonel Kelt plained that this rugged cou typical of much of the area t which the road passes.

Leaving the big cut, we soon ford a stream, and about dark a downpour equal to those I remem Firestone's plantations in Liberia Africa, was evidence that we

# ...ghway Diary

*...of the Inter-American Highway, which is the strategic link of the Pan-...can highway system through Central America. It is 1,530 miles in length.*

...into the tropics. About 8 o'clock ...rived at Ayutla, Guatemala, our ...ing point for the night and one of ...eadquarters for a long section of ...ighway.

...jor Tobin informs me that only ...n U. S. Engineers and inspectors ...pervising the work on the 310 ... of highway in Guatemala. This ...is being done by the Guatemalan ...ment mostly by hand labor with ...7,000 workers. For the Guate-...n government Col. Carlos E. K. ...ord of the Guatemalan army is in ...e. In Guatemala a gravelled road ... wide and of 7 percent maximum ...e is being constructed. This design ...pical of that planned for all of ...al America.

**...ril 29**—Our group left Ayutla ...y after daylight and in the middle ...e forenoon we reached the Rio ...njo, where an old Guatemalan ...ad bridge is being salvaged to ...de a river crossing.

...me of the highway is sufficiently ...lete so that we could travel over ... jeep, but much of the new con-...ion is only staked out. Along ... sections we had to follow the ..., narrow trails only fit for jeeps. ...rts, and travel by horseback. The ...way follows old trails for short ...ces, but for the most part it is ...letely new construction and 25 ...nt shorter than any existing route.

During the day we traveled through a coffee and banana plantation region. The higher the elevation the better the grade of coffee produced, according to A. M. Bond, formerly of the Texas state highway department and now in charge of a long section of the road, for the U. S. Engineers.

At about 10 in the evening, following 200 miles of travel, we had climbed to an elevation of 4,800 ft. to reach Guatemala City. This beautiful capital of some 250,000 population is the largest city in Central America and provided good hotel accommodations. On hand to meet us was Fred Kline, assistant chief of the engineering division in the Los Angeles office.

**April 30**—Some of the party had to obtain visas and we did not leave Guatemala until 11 o'clock. This late start gave me an opportunity to receive my last typhoid vaccination and my second typhus fever vaccination.

Shortly after leaving Guatemala, heading eastward in station wagons, our party crossed a stone arch bridge built in 1592 by the Spanish colonials. The structure is to be made a part of the highway when improvement of the winding, narrow road we followed is completed. Advancing toward the eastern boundary of Guatemala, we found the country continued very rugged with peaks of several thousand feet in height.

(*Continued on page* 11)

## *Progress report on Shasta Dam operations*

Flow in the Sacramento River at Shasta Dam has gone down to summer levels (about 8,000 sec.-ft. by mid May) and two slots, 50 ft. wide, left in the spillway section are now being used alternately for passing stream flow. Concreting is done in one slot behind a light cofferdam while all the flow goes through the other slot; when the new concrete has set, the cofferdam is removed to the other slot. Thus the permanent storage zone of the reservoir is being filled in a series of 10-ft. rises.

By June 10 the slot-raising operations are to reach the level of the diversion tunnel (in which the Southern Pacific Railroad passed through the dam for some time). By July 1 the slots are to be high enough so that thereafter the tunnel can carry all stream flow. By Jan. 1, 1944, all mass concrete is to be in place; diversion tunnel gates can then be closed and all surplus stream flow will be stored in the reservoir. The powerhouse is expected to be ready to generate power by March, 1944.

An interesting race against time is in prospect in the dismantling and salvage of some 4,000 tons of steel in the tall head tower for the cableways, a dominant feature in the Shasta Dam skyline since construction began. Dismantling cannot begin, of course, until the last mass concrete has been placed and it must be completed (or the work discontinued indefinitely) before water level rises above the tower base.

### Spillway is vacuum-treated

The vacuum process used on the downstream spillway surface to get a smooth, "case hardened" surface is pumping out about 30 gal. of water from each 5x50-ft. concrete lift. At the right abutment about one-third of the crest length of the dam is up to roadway level. Pacific Constructors, Inc., the contractors, are now placing concrete at the rate of about 4,000 cu.yd. per day. About 1,000,000 cu.yd. is yet to be placed. Grouting is under way in the deep holes which were put down on 5-ft. centers and in which grouting pressures range up to about 500 lb. per sq.in. In 60 of these holes that had been grouted when this was written, the formation was very tight; quite a few holes took no grout at all; 20 sacks was a maximum.

At Keswick Dam work has been resumed and about 200 men are employed under a supplemental contract with the Atkinson-Kier Co., whereby the 1,400 tons of reinforcing steel that remained on hand when the work stopped, will be used up. This will include some 20,000 cu.yd. of concrete. Another contract for an additional 30,000 cu.yd. of concrete and 800 tons more steel would complete Keswick Dam and powerhouse.

# New York contracting organizations sponsor Army recruiting dinner

***Large dinner held in New York to aid Army engineers in recruiting men from the construction industry for construction regiments***

Over fifteen hundred contractors and engineers from the New York Metropolitan district gathered for dinner in the ball room of the Commodore Hotel in New York on June 3 to honor Major General Eugene Reybold, Chief of Engineers, U. S. Army. The dinner had been arranged to assist the Army engineers in their campaign to recruit 100,000 men from the construction industry of this country for the general service and special service regiments that the Army now is raising for service abroad (*ENR* Apr. 15, p. 519). Sponsoring organizations were the Metropolitan Builders Association, the local chapter of the Associated General Contractors of America; New York Building Congress; New York Division of the Associated Equipment Distributors; Building Trades Employers Association, General Contractors Association of New York; and the Public Building Contractors Association of New York. John P. H. Perry, vice president, Turner Construction Co., acted as toastmaster. James W. Escher, president, Metropolitan Builders Association, in outlining the purpose of the dinner, said that he hoped it would be but the first of many such dinners to be held across the country under the sponsorship of the A.G.C. and like organizations.

#### Recruiting well started

Brig. Gen. B. C. Dunn, division engineer of the North Atlantic Division, stated that 2,200 men already had been recruited in that division and that the high caliber of the men received had been the subject of comment from the units to which they were assigned.

The units now being organized by the army are for construction overseas. Men between the ages of 18 and 50 who are physically fit for overseas duty are accepted. Men skilled in construction trades are desired, but young men lacking these skills will be given training at Camp Claiborne, La., and elsewhere.

Most of the enlisted men in the general service regiments have ratings above that of private, there being less than 200 privates among the 1,200 men in a general service regiment. Officers are drawn in large part from the construction industry. [A description of the training and equipment of these regiments is to be published in ENR July 1.]

#### Construction moves abroad

Construction for the Army, said General Reybold, has shifted from this country, where it could be done by civilian contractors, to foreign fields, where it must be done by men trained and equipped to defend themselves in case of attack if that becomes necessary. During the period of intensive construction in this country, many men of draft age on construction jobs were given deferment. Now they are being released and it is hoped that the skills that they have developed can be made of most use by getting them into the construction regiments that are being organized. To that end, a plan has been worked out whereby, through voluntary induction, men between 18 and 38 can be assurred of assignment to such regiments. Men desiring such assignment, General Reybold said, should apply to local division or district offices of the Corps of Engineers where they will be interviewed and given letters to their local draft boards asking their assignment to engineer units if they apply for induction before their numbers come up. Men up to 50 with construction skills may enlist through regular recruiting channels.

General Reybold said that it would be a tragic mistake to let these men get into army units where their construction skill could not be used to best advantage when men with such skills are badly needed in prosecution of the war. He observed also that both the men themselves and the construction industry generally would gain by a plan that would keep these men in shape for the construction jobs that lie ahead in the postwar period.

Charles H. Sells, recently appointed superintendent of the New York State Department of Public Works, who has just returned from a big construction operation in Iran, told of the splendid work that had been done by Army engineers in Africa on road and airports between the time he flew out and his return trip.

A message from Thomas A. Murray, head of the Building Trades Department, American Federation of [illegible] said that the Building and Construction Trades Council of New York City pledged its help for the recruiting and has asked all its locals to support the move.

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## Contractors not entitled to any extra gas

Contractors in the eastern gas shortage area got no help from last week's revision of the WPB-ODT gasoline priority list. They are still not on the list (ENR, June 3, p. 784) and are strictly not entitled to extra gas. Their only hope for relief from the 40 per cent cut imposed on commercial users is to make a strong selling job on local or regional ODT representatives.

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## WPB to help contractors about unused materials

Where construction projects are halted through the issuance by the War Production Board of revocation or stop orders, contractors will be advised in the future to contact redistribution officers of the appropriate regional office with regard to disposal of material purchased for projects which have been halted.

The Redistribution Division of WPB will assist contractors in disposing of material and equipment made available as the result of the issuance of revocation or stop orders. A paragraph embodying this suggestion to contractors will be added to revocation orders issued in the future.

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## More water storage considered for northwest

First reports on surveys for immediate construction of water storage projects to increase the Columbia River power supply were considered recently by engineers of the Federal Power Commission, Reclamation Service, War Department and Bonneville power administration at Portland, Ore.

Preliminary data were presented on two projects, both calling for construction of dams. One of the dams would be erected on the Clark fork of the Columbia which would permit winter storage in Pend O'Reille Lake. The other plan involves construction of reservoir facilities in the Flathead Lake area in Montana.

No decision was reached at the meeting, but other conferences will be held and final recommendations will be presented to the Bonneville advisory board in Washington, to be reported to the War Production Board immedi-

### Why Copies Are Late

If this and other copies of *Engineering News-Record* have failed to reach you at the accustomed time, it has not been the fault of the publisher. Mail and transportation services are operating under great difficulties because of war conditions, and this is causing delays in delivery.

## ...construction ...ds broken in 1943

...time world records for tim... ...ction were established during ...lf of 1943 as vast Army and ...s, designed and engineered in ...ve been completed.

...rst amount of wood ever used ...—27,000,000 feet—went into ...cargo-plane assembly plant ...e Austin Company of Chicago, ...supervision of Army engineers. ...rgest clear span timber arches ...d roof the Navy's mammoth ...r blimp hangar. They rise 153 ... the floor and span an area ...wide and 1,000 feet long—...ft. of floor space unobstructed ...s or supports of any kind.

...for speed of construction fell ... Navy completed in seven ... new $50,000,000 naval train... ...in New York State. Although ...ntirely of wood, the project ...0,000 ft. of lumber in its 400

... production in the United ... the first quarter of 1943 is ...at 7,141,109,000 bd.ft., and is ...der the estimated first quarter ...ed to meet total military and ...ivilian requirements of 32 bil... ...feet for 1943, the War Produc... ...d's Lumber and Lumber Prod... ...ion has announced.

... production has risen steadily ...e first quarter period, with ...000 board feet in January; ...000 board feet in February, ...,421,000 board feet in March. ...t possible to forecast whether ...e rate of production established ...e first quarter can be main... ...r the entire year, Lumber Divi... ...ials stated, since the log sup... ...pendent on numerous factors; ... equipment, the most important ...already curtailed in comparison ...etime standards and additional ... are to be expected.

. . .

## ...ral gas pipeline ...e built in Okla.

...iate construction of a new pipe... ...sure adequate natural gas sup... ...t winter for the mid-continent ...nded roughly by Wichita, Kan.. ...City and Springfield, Mo., was ...d May 24 by J. A. Krug, direc... ...e of War Utilities.

...-in. line will run from the center ... County, Okla., 240 miles east... ... a connection with the Cities ...ystem at Blackwell, Okla. ...Service will build the line as it ...rincipal natural gas distributor in the area and the one most in need of additional supplies. Neighboring systems, however, are assured of the opportunity to obtain deliveries from the line to assist in meeting any possible deficiencies during the war period and for some time thereafter.

Construction of the new pipeline is needed, Mr. Klug said, because of the vast increase in war manufacturing in the area, with a consequent increase in natural gas consumption, also because of the decline in output of a number of gas fields upon which the utilities have depended heretofore.

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## Extensive road work planned for Ohio

Sums totaling between $7,000,000 to $8,000,000 will be spent on resurfacing highways in the State of Ohio by the Department of Highways. These sums will be spent on improving about 800 miles of the state system.

In addition, another $3,000,000 will be spent on surface treating of approximately 2,500 miles of highway.

## WPB permits rise in Western lumber prices

Producers of Western pine lumber in five states have been authorized to increase present ceiling prices $3 per 1000 board-feet for six species of lumber in twelve named grades and sizes sold to certain buyers under War Production Board Limitation Order L-290, the Office of Price Administration has announced. The purpose of the increase is to maintain production.

The states in which the $3 increase may be made are California, Idaho, Montana, Oregon, and Washington. It was only in these areas that producers were directly affected by wage increases authorized in April of this year. These are retroactive to the last quarter of 1942. This price adjustment is made to relieve hardships caused by the wage increases in small mills in these five states.

The different kinds of lumber under order L-290 to which the ceiling price is applicable are ponderosa pine, Idaho white pine, sugar pine, lodgepole pine, white fir, Western White spruce, and Engelmann spruce, in specific grades and sizes stated in the WPB order.

Press Association Photo

**Seabees gouge out clay at an advance Aleutian base**

*A Seabees' officer watches a heavy power shovel bite into the heavy clay of Adak Island as a U. S. Navy construction battalion erects an advance base on the mountainous Aleutian Island, 397 miles west of Dutch Harbor. The island, which offers several good harbors for anchorage, was taken without Jap opposition as a preliminary to the Attu conquest.*

*Fig. 1. One of the last structures of its general type to be constructed, this army hospital has concrete block walls, timber floors and roof covered by asphalt shingles. All buildings are connected by covered walks.*

# Army Hospital Built of Concrete Block

RECENTLY COMPLETED at a Midwest army cantonment is a semi-permanent hospital for which cement blocks were used in constructing the exterior walls of all buildings. Planned for 1,500 beds at present and enlargement later to provide 1,700 beds the hospital includes 46 buildings. Most of these are all special structures, but there are 6 barracks of similar layout, 8 standard wards and 6 special wards. Greater number of the structures are two stories in height, and of the general type shown above in Fig. 1.

Although at many Army cantonments large hospitals with all buildings of one-story height have been constructed, a two-story design was decided upon for the hospital illustrated because of the cheaper construction possible. Also less land was required with a two-story design in providing for a given number of patients.

*Fig. 2. Buildings are supported on continuous concrete foundations walls surmounted by concrete blocks. First floor consists of yellow pine joists and double yellow-pine flooring separated by a layer of water-proof building paper.*

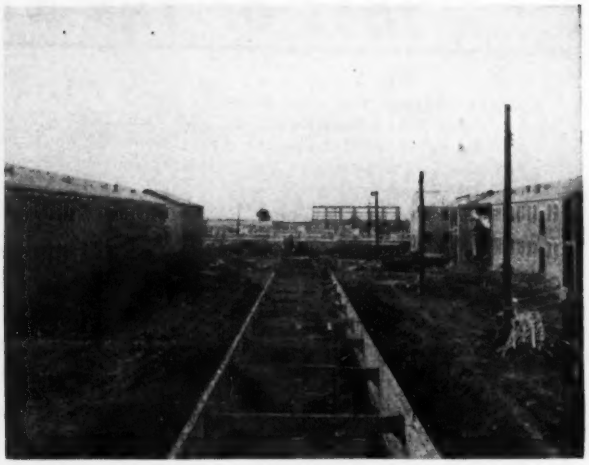
This is one of the first hosp
semi-permanent type to be bu
Army camp. It is also one of
since when the job had been u
struction for about six weeks
Department issued orders tha
hospital buildings at cantonmen
be of the theatre of operations ty
ruling required that the structur
lower cost and less permanent
tion.

### Reinforced foundations

Foundations for the building
of 12-in. wide, lightly reinforced
ous concrete walls. For the fi
height the concrete block walls
in. thick and for the remaining
in. On the inside these walls
ered with ¾-in. gypsum board.
outside the blocks are treated
ment water paint to make them
proof and to improve appearanc
buildings. The lintels and sills ar
cast concrete. Wood sash windo
installed.

All floors are designed for a l
of 40 to 75 lb. per sq.ft. For
floor a double yellow-pine floorin
rated by a layer of water-proo
was laid over yellow pine joi
second floor is of very similar c
tion except that no paper is used
the two floors.

Interior walls consist of 2x4-in



*Covered walks required continuous concrete foundations carried to sufficient depth, as shown at left, to provide a tunnel below first level for the steam mains and other service facilities. Foundation walls, at right, are joined on 15-ft. centers by reinforced-concrete footings are to support columns required by partitions shown in Fig. 5.*

in. centers covered on each side in. wallboard. For the ceilings wallboard is used. All the wall- on the exposed side has been wo coats of cream paint.

he pitched roofs a 1x6-in. tongue nove sheathing, covered by build- per and mineral-surfaced, asphalt s has been added. For the flat tar and gravel roof is used.

necting all the buildings are cov- walks. Built into the walks are of the type illustrated by the graph shown at lower right. construction solved the problem ing wheel chairs between parts of spital of different elevation.

### Heated with steam

m for heating the hospital is ob- from a central plant built espe- for the hospital. In the ramps and special areas unit heaters are used, r the major part of the hospital radiators spaced along the exte- walls below the windows are em- .

hting throughout is by incandescent In some areas indirect lighting is yed.

material for the hospital structures elivered by truck from a railroad near the job.

spite extremely bad foundations in areas where unstable sandy soil ncountered and two months of rain start of the work, rapid construc- was possible. The work was done the direct supervision of The Corps gineers, U. S. Army.

cause of military restrictions those ected with the work cannot be men- d nor can the general contractor is engineers be listed.

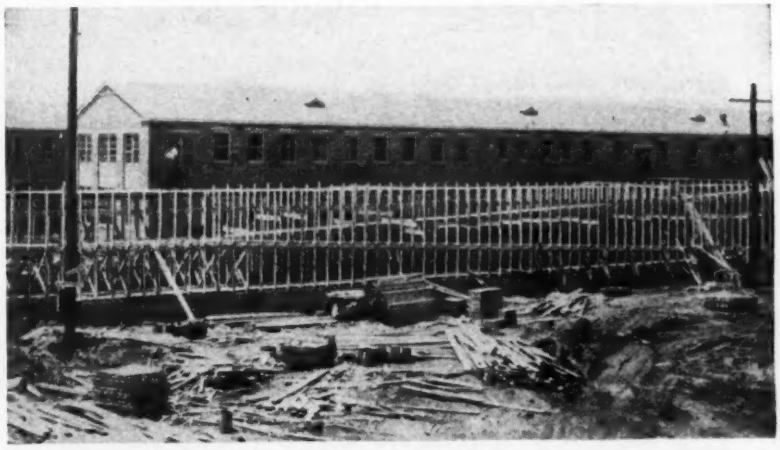


*Fig. 4. One of the connecting walks that houses ramps leading from first to second floor level under construction.*

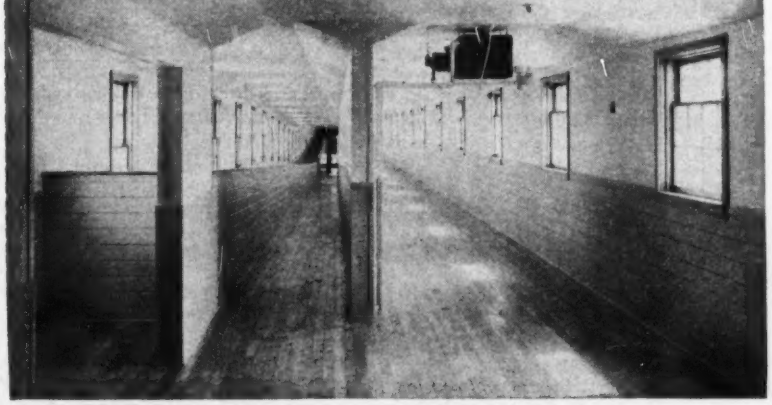


*Fig. 5. End view at second floor level of a connecting walk between two buildings. Pedestrians wanting to remain at second floor level use right side of walk and those descending to first floor the left passage.*

# JOBS OF THE WEEK

***BOMBER ASSEMBLY PLANT, Nebraska***

Peter Kiewit Sons Co. Omaha, Neb., will build additional units, to Modification Center 10, bomber assembly plant, Sarpy Co., for U. S. Engineers, Omaha, Neb. Cost of project will be less than $2,000,000.

***AIRCRAFT PLANT, Oklahoma***

U. S. Engineers, Tulsa, Okla., awarded contract for modification center at Douglas Aircraft plant, in Tulsa County, cost to exceed $3,000,000. Corbetta Construction Co., New York, N. Y. will erect.

***MODIFICATION CENTER, Oklahoma***

Charles M. Dunning Contracting Co., Oklahoma City, has been awarded contract to build modification center at Douglas Assembly Plant, Oklahoma Co., by U. S. Engineers, Tulsa. Cost will exceed the sum of $3,000,000. Grading, drainage and 1.6 miles of railroad track for the project have been awarded to Leo Sanders, Oklahoma City.

***WAREHOUSE and MILL BUILDING, Oakland, Calif.***

Austin Co., Oakland, Calif., will design and build warehouse and mill building for Albers Milling Co., Oakland. Estimated cost will be $1,200,000.

***IMPROVEMENTS, North Carolina***

Mecklenburg Construction Co., Durham, N. C., has been awarded contract for improvements, Forsyth Co., by Civil Aeronautics Authority, Atlanta, Ga. Estimated costs is from $750,000 to $1,000,000. U. S. Engineers, Wilmington, N. C. will supervice.

***AERODROME, Seven Islands, Que.***

Department of Transport, Ottawa, Ont., developing aerodrome, clearing, grading, smoothing, hard-surfacing runways and taxi strips, drainage, road improvements, awarded to H. J. O'Connell, Ltd., Montreal, Que. Estimated cost of the entire project is $900,000.

***RECONSTRUCTING RUNWAYS, etc., South Dakota***

U. S. Engineers, Fort Peck, Mont., awarded contract for reconstructing existing runways, constructing additional taxiways and paved areas in Pennington Co., to Peter Kiewit Sons Co., Omaha, Neb. Cost will exceed $2,000,000.

***IMPROVEMENTS, Colorado***

U. S. Engineers, Denver, Colo., awarded contract for improvements, Denver County, to Thomas Bate & Sons, Denver, Colo. Cost will be less than $2,000,000. H. T. Buell & Co., Denver, Colo., are engineers and architects.

***SHORE PROTECTION FACILITIES, Erie, Pa.***

Merritt-Chapman & Scott Corp., New York, N. Y., has been awarded contract for shore protection facilities, erecting rubble mound protection and 2,300 ft. rubble mound jetties, Erie County, by U. S. Engineer, Buffalo, N. Y. Cost will be between $500,000 and $1,000,000.

***CAUSEWAY, Vera Cruz, Mexico***

Department of Navy, Mexican Government, Mexico City, will construct additional work for a causeway, between mainland and San Juan Island. Estimated cost to be $5,500,000; also additional construction at Naval Station, San Juan Island, to cost $1,250,000. All work will be done by force account and sub contracts. Department Federal Public Works, Mexico City, will be engineers for the projects.

***ROADS, Illinois***

Illinois State Department Public Works and Buildings, Division of Highways, Springfield, awarded contract for 5.22 miles of 24-ft. and dual 24-ft. concrete pavement relocation on U. S. Highway 66, from Illinois Terminal System railroad and Wabash Railroad subway northeast of Staunton to near Montgomery County line northeast of Mount Olive, Macoupin County, to Maurice Hoeffken & Co., Belleville, $554,537. W. W. Polk, Springfield, is highway engineer.

***HOUSING, Washington***

Nettleton & Baldwin, Seattle, Wash., have been awarded a contract by Public Housing Authority, Seattle, to build housing at $1,875,343. Johanson, Bain, Brady & Grainger, Seattle, Wash., are the architects.

Note—Additional bidding and contract news on many porjects large and small appear in the Construction News section beginning on page 14.

## War prisoners to ... in non-war work ...

(*Continued from pa...*

out what skills are availa... prisoners can be sent where ... are most needed.

Most of the prisoners are ... Italian, about 22,000 of the ... 14,000 of the latter. Germa... are at the following camps ... ridge, Ky.; Chaffee, Ark.; ... Tenn.; Gruber, Okla.; Here... Huntsville, Texas; Roswe... Stringtown, Okla.; Angel Isl... Blanding, Fla.; and Ft. M... Italian prisoners are at Camp... Ind.; Carson, Colo.; Clark, ... ville, Tenn.; Florence, Ariz.; ... Wood, Mo.; Ogden, Utah; ... Kan.; Weingarten, Mo.; Wh...

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## New Texas-Okla. ... approved by WPB

Construction of a 383-mi... pipeline from Sundown, Tex... wright, Okla., having an initi... of 54,000 barrels of crude oil ... approved June 4 by the War ... Board upon the recommendat... roleum Administrator for W... L. Ickes.

Administrator Ickes said ... rials for the line, which will b... operated by the Stanolind Pip... pany, will be made available f... controlled materials allotment ... tion is expected to begin ear... ber, 1943, and should be in ... some time in March, 1944, the ... trator added, providing that ... and workmen are available on...

Some 44,600 tons of steel a... 000 will be required to build ... line.

The pipeline will serve to re... dle Western refineries with ... supplies of West Texas crude ... meeting oil requirements in ... continent area, where crude o... are declining.

Oil for the new pipeline will ... from the Permian Basin regio... Texas, one of the last substan... oil reserves with producing c... excess of present pipeline ... developed in the Southwest. Th... start, actually, in the Slaug... near Sundown, Tex., in the ... corner of Hockley County, and ... minate in the vicinity of D... Okla.

Only one pumping station ... needed to operate the line at 5... rels-a-day capacity, but other s... be installed as needed, will ... capacity of the line to more tha... barrels daily.

# Inter-American Highway Diary

(*Continued from page* 5)

the boundary we said goodbye to De Groff and D. Manning, Jr., of U. S. Engineer's Office at Guate-. Waiting to meet us with a sta- wagon and jeep for travel in El ador was Capt. George H. Barton, dent engineer for the 168-mi. sec- of the highway in El Salvador.

he trip over the highway to reach Salvador, the nation's capitol and city where we were to spend the t. was a great contrast to travel ugh Guatemala. The Salvadoranean way department compares with the er state highway departments in United States. Under the direction Col. Carlos Mejia Osorio, public ks director, the department during past few years has built with hand or an excellent highway from the temalan border to San Salvador. e road is a 24-ft. macadam pave- t of excellent alignment, although h rugged terrain was encountered.

May 1—We were delayed in leaving n Salvador, a city of 100,000 popula- n at an elevation of about 2,000 ft., l 11 o'clock. This late start gave a fine opportunity to get acquainted h Juan P. Camino, director general the Salvadoranean department of ways, and Rafael Zaldivar, inspec- general of highways in El Salvador. was under the immediate supervision Mr. Camino that the excellent high- y over which we traveled yesterday s built. He made known that his untry, which has an area only slightly rger than the state of Vermont, con- ins 350 miles of paved highway and out 2,000 miles of improved dirt ads. El Salvador also is the only ntral American country that has an l-weather road for nearly its full ngth.

Traveling over an excellent macadam vement that continued to within about miles of the El Salvador-Hondur- ean border, we passed over the mpa River bridge, the largest river ossing in Central America, a 1300-ft. spension bridge with a central span over 800 ft., which was built by the lvadoranean government without any tside financial aid.

The highway passes near San Miguel, ird largest city in El Salvador, where me equipment for use on the high- y is being delivered by boat. This ity was founded in 1530 by the Span- ards.

Work on the Pan-American Highway El Salvador includes construction of 00 culverts and bridges, and it was pected to be completed by November. Hand labor, of excellent quality, is available. Much greater speed than ordinarily would be expected is possible as these people are accustomed to the effective use of the wheelbarrow.

We approached the Goascoran River, which is the border between El Salvador and Honduras, before dark. At this point the Frederick Snare Corp., New York, is building a steel-truss crossing for the Public Roads Administration. Since the structure will not be completed for several months, we had to ford the river some distance downstream.

Upon reaching the Honduranean side, we found that the Swinerton, McClure and Vinnell Company, of Los Angeles, which holds the general contract for 180 miles of the road in Honduras and Nicaragua, has made rapid progress. However, the highway was not sufficiently advanced to avoid a long, hard jeep ride over a rough trail in getting to the town of Nacaome, where the Swinerton organization has built a splendid camp and repair shop. Our party was more than glad to take over one of the screened bunk houses for the night.

May 2—On Sunday we continued our tour along the highway as work goes on seven days a week. Starting shortly after six o'clock, we did not call it a day until arrival at Swinerton's camp at Esteli, Nicaragua, at seven in the evening. The fact that we made but 105 miles during the day indicates the extremely difficult trail we followed. When the road was first being located and before a bulldozer had gone to work, the last part was so rough that it took one day to travel over about six miles of the ox trail by jeep.

Much of the highway through Honduras has not been placed under construction, although for the most part it has been staked out. More has been done in northern Nicaragua, but here again the amount of work actually completed is rather small.

We stopped for lunch in southern Honduras at San Marcus (elevation 4,000 ft.) with K. T. Norwood, resident engineer for the U. S. Engineers. Much of this country reminds one of the Blueridge Mountain area in the United States. Another brief stop during the day permitted me to visit with W. C. Thompson, superintendent for the Swinerton firm on about 20 miles in western Nicaragua. We also traveled over a section of the highway with Jack G. Dumas, formerly with the Texas state highway department and now resident engineer for the Army Engineers. Tonight I also got to talk with Paul Welton, who is in charge for the Swinerton firm in northern Nicaragua, and with B. R. Wilkinson, resident engineer on the same work for the U. S. Engineers.

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## Triboro Authority asks move to ban bond default

Faced with a default in interest payments on Aug. 1 because of the sharp decline in public travel by automobile, New York City's Triborough Bridge Authority has asked holders of $98,500,000 of revenue bonds to approve a plan that will permit payments to continue throughout the war, provided hostilities end no later than 1947.

An increase in tolls was ruled out by the authority because it would only serve further to divert traffic from the five big bridges under its control, according to a letter to the bondholders signed by Paul Loeser, general manager and secretary of the bridge authority. He and the members of the authority urged the bondholders to accept the plan promptly to avert a default.

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## Illinois Tech to train 700 apprentice seamen

Under the navy's new educational program, 700 apprentice seamen will report next month to the Illinois Institute of Technology, Chicago, for engineering training, according to Henry T. Heald, president of the school. About 400 trainees will be housed at Illinois Tech, while the other 300 will be located at George Williams College where some of the classes are to be held. Lt. W. A. Hamilton, former director of student activities in the Tampa, Fla. schools, will be the naval officer in charge.

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## Over 2,000 inductees to study engineering at LSU

The engineering training group of the Army to be stationed at Louisiana State University this summer may have 2,200 inductees instead of the original quota of 1,200, it has been announced by President C. B. Hodges.

The University contracted with the War Department early this year to take a class of 1,200 engineer trainees. The request for the university to take the additional 1,000 was made recently.

The men will be taught by the Louisiana State University engineering faculty and will be housed in the stadium dormitory.

# MEN AND JOBS

**Brig. Gen. Howard Kennedy** has been appointed quartermaster general of the Canadian Army, and promoted to the rank of major general. General Kennedy, who is 50 years old, is a native of Dunrobin, Ont., and a graduate in engineering of McGill University, Montreal.

**Henry P. Griffin,** of McAllen, Tex., is associate civil engineer, Corps of Engineers, Office of the Post Engineer, Moore Field, Mission, Tex. He has supervision of the water filtration and distribution system, sewerage system, disposal plant, central heating plant, streets and grounds, aprons and runways, and all auxiliary landing fields.

**Capt. Robert R. Harris,** of Louisville, Ky., formerly chief engineer of the bureau of sanitary engineering of the Kentucky State Health Department, has been assigned to the office of the Coordinator of Inter-American Affairs at Managua, Nicaragua.

**Col. W. S. Moore,** Wilmington, N. C., army district engineer since May 9, 1942, has been transferred by the War Department to an assignment with troops on the West Coast. During the time that Colonel Moore headed the Wilmington office approximately $120,000,000 worth of wartime construction work had been completed in North Carolina, and the district had led all other districts in the South Atlantic region in the percentage of construction completed on time and ahead of schedule.

**J. C. McCallen,** of Jackson, Tenn., division maintenance engineer of the Tennessee highway department, has been named division engineer. **W. B. Haynes,** Memphis district maintenance engineer, has been named his successor.

**Robert H. Allen,** who has served since 1939 on a day-to-day basis as acting state highway engineer for Nevada, was voted a formal appointment to the position of state highway engineer.

**C. C. Chambers** has resigned as chief engineer of the Muskingum, Ohio, Conservancy District. J. S. Jena, his assistant, of New Philadelphia, has been appointed to succeed him. Mr. Chambers will be retained as consulting engineer for the district.

**Edward G. Gill** of Wake Forest, N. C., former engineer for the North Carolina Highway and Public Works Commission, has been promoted to first lieutenant from second lieutenant at Camp Claiborne, La.

**Lt. Col. W. R. Young,** employed by the Pennsylvania State College, State College, Pa., since 1919 as supervisor of correspondence instruction in engineering and central extension, now directs the mailing of study courses to American soldiers in all parts of the world. From his headquarters in Madison, Wis., Colonel Young is director of the U. S. Armed Forces Institute, which he organized a year ago.

**Arthur B. Henry** has been appointed chief engineer of Indianapolis, Ind., and W. H. Frazier is the new assistant engineer. A practicing engineer for 20 years, Mr. Henry has had wide experience in sanitation projects.

**Ralph J. McMahon,** former chief engineer of the State Land Office, Austin, Tex., has resigned to become chief cartographer for the Magnolia Petroleum Co., Dallas. Mr. McMahon was formerly state reclamation engineer in charge of levee construction, flood control and topographic mapping for the state.

**Comdr. W. Sihler** (CEC) USN, who recently returned from strategic Allied battle areas, has assumed new duties as officer in command of the Seabees Officers Training Department. He is a graduate of both the Navy Academy and Rensselaer Polytechnic Institute, and has had 22 years active duty in the Navy.

**L. O. Temple** who was a field engineer in Monterrey, Mexico, has entered the Navy and is training in New York City. He was graduated in civil engineering from Iowa State College in 1942.

**Frank Z. Howard,** Klamath County surveyor, has been named acting city engineer of Klamath Falls, Ore. He was formerly Klamath County engineer.

**Roy L. Williamson** has been re-elected commissioner of public works at Raleigh, N. C. He was formerly city engineer, and has been serving as commissioner of public works since 1938.

**Gene E. Scholze,** who was graduated in civil engineering from Iowa State College three years ago and has been a draftsman for the Great Northern Railroad, has become an ensign in the civil engineer corps at Camp Peary, Williamsburg, Va.

**Lt. Col. Hugh E. Killin,** area engineer at the Monticello, Ark., internement camp has been assigned to duty at Fort Francis E. Warren, Wyo.

## Old engineering firm changes its name

The consulting engineering [illegible] ship of Parsons, Klapp, Brinck[illegible] Douglas, New York, has chan[illegible] name to Parsons, Brinckerhoff, H[illegible] Macdonald. Partners in the ne[illegible] are Henry M. Brinckerhoff, J[illegible] Hogan, Eugene L. Macdonald, S[illegible] Thoresen, Gene W. Hall, Sam[illegible] Marshall.

The firm was organized by t[illegible] Wm. Barclay Parsons, chief engi[illegible] New York's first subway syste[illegible] began practice as a consulting e[illegible] in New York in 1885. Eugene Kl[illegible] came associated with Mr. Parsons [illegible] and in 1910 the firm name was cha[illegible] Barclay Parsons & Klapp. Mr. Br[illegible] hoff, the present senior partner, [illegible] associated with the firm in 19[illegible] Walter J. Douglas joined it in[illegible] In 1919 the name was chang[illegible] Parsons, Klapp, Brinckerhoff & D[illegible] John P. Hogan became associate[illegible] the firm in that year and bec[illegible] partner in 1926. Eugene L. Mac[illegible] who with Mr. Hogan had served [illegible] Col. Parsons in the 11th Engine[illegible] France, became associated wit[illegible] firm in 1932 and was made a p[illegible] in 1938. Soren A. Thoresen ha[illegible] with the firm since 1905; Mr. Hall [illegible] it in 1940, having previously been [illegible] dent of a subsidiary, Parklap N[illegible] Builders. He now is a lieutenant [illegible] in the Army. Mr. Marshall join[illegible] organization in 1942.

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## Highway funds invest[illegible] in war securities

Governor Coke Stevenson of Tex[illegible] announced that the Highway Comm[illegible] of his state has invested $15,000,0[illegible] reserve highway funds in federal [illegible] ury certificates to aid in financi[illegible] war. The Governor said:

"To help meet an imperative an[illegible] mediate need of the U. S. Treasu[illegible] money to prosecute the war, the [illegible] Highway Commission has authoriz[illegible] investment of $15,000,000 of fun[illegible] served for contract obligations, bu[illegible] porarily inactive due to war condi[illegible] in United States Treasury certifi[illegible] This action conforms to the terms [illegible] law passed unanimously by the Le[illegible] ture and approved by the Gov[illegible] April 12.

"The certificates are one-year [illegible] tions, but may be redeemed at the [illegible] of the holder. The investment main[illegible] the Highway Fund in a fluid cond[illegible] so that work on the outstanding [illegible] tracts may be resumed without [illegible] when the limitations of war permit.

## OBITUARY

**J. Newman,** 78, died June ...go, Ill. As head of the W. ... Caisson Co., Chicago, until ... supervised excavation work ... government dam in Illinois. ...an was a veteran excavating having entered that field in ... he was responsible for the ... of foundations for many Chi- ...erapers.

**J. Fleck,** 71, died May 27 ...kee, Wis. For many years ...rt in construction of industrial, ...al and civic buildings through- ...Middle West, and for the past ... has been head of the Fleck ...ion Co.

**S. Pelton,** 87, one of Mil- ... early general building con- ...ied May 12 at Milwaukee, Wis. ...y years he was president of the ... Construction Co., builders of ...s and courthouses throughout ...d States. For ten years prior ...irement 12 years ago he was ... with the Robert L. Reisinger ...ion Co., of Milwaukee.

**...r Q. Cannon,** 67, prominent ...t Utah in engineering and ... church circles for the past 40 ...d May 29, at Salt Lake City. ... graduate of Latter-day Saints ... and held degrees from the Uni- ...of Utah and Massachusetts In- ...f Technology. For 13 years he ...iding bishop of the Latter-day ... Church. Bishop Cannon first ... general civil and mining engi- ... practice in Utah in 1905, and ...e engineer in charge of the ... River irrigation survey until ... From 1913 to 1925 he served as ...ineer of Salt Lake City and ...ely known for his activities in ...ng, waterworks and sewage dis-

**Stanley Kent,** chief engineer of ...ks and Canal Corp. of Lowell, ...ied there May 16. Mr. Kent ...ice-president of the Boston So- ... Civil Engineers.

**... Henry Miner,** 65, assistant ...gineer of the Grand Coulee Dam, ...y 31 at his home near the dam. ...ner had been with the United ...Bureau of Reclamation since 1934, ...s graduated from Cornell Uni- ... in 1902.

**...f Widell,** 81, bridge contractor at ...o. Minn., died recently in that city. He was head of the former Widell Construction Co., highway and railroad bridge builders.

**Edward N. Otis,** 40, subway structural designer in office of the Chicago Department of Subways and Superhighways, died at Chicago on May 24. Mr. Otis previously spent 14 years with the Sanitary District of Chicago.

**J. Smith Parks,** 59, Southern Bell Telephone Co., employee for 40 years and supervising engineer at Louisville, Ky., for the last ten years, died on May 28.

**Everett E. Stone,** 78, former chief engineer of the Boston & Albany R.R., and for about 20 years a member of the Massachusetts Department of Public Utilities, died at Longmeadow, Mass., on May 26. He was a native of Leicester, Mass., and former mayor of Springfield. He also served on the Bay State Commission.

**Edward H. Rockwell,** 71, former director of the division of civil engineering at Lafayette College, died at Easton, Pa., May 26. Professor Rockwell spent 52 years as an engineer and teacher until his retirement a year ago. He was graduated from Worcester Polytechnic Institute in 1890. In 1902 he was appointed professor at Tufts College, where he remained for 20 years. Then he became dean of the College of Civil Engineering at Rutgers University and in 1928 went to Lafayette as director of the division of civil engineering.

# CONTRACTS AND CAPITAL

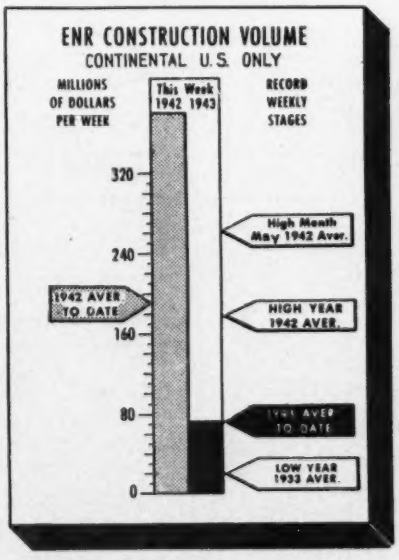
CIVIL ENGINEERING construction volume in continental U. S. totals $69,644,000 for the week. This volume, not including the construction by military combat engineers, American contracts outside the country, and shipbuilding, is 82 percent lower than the total for the corresponding week in 1942, and compares with $106,873,000 reported for the holiday-shortened preceding week.

Private construction is 52 percent higher than in the week last year, but this gain is more than offset by the 84 percent decline in public work. Federal construction is 86 percent lower than a year ago, and state and municipal work is down 14 percent.

The current week's construction brings 1943 volume to $1,668,276,000, an average of $72,534,000 for each of the 22 weeks. On the weekly average basis, 1943 volume is 62 percent below the $4,590,785,000 reported for the 23-week period in 1942. Private construction, $213,022,000, is 31 percent lower than a year ago, and public work, $1,455,254,000, is down 64 percent when adjusted for the difference in the number of weeks.

In the classified construction groups, gains over last week are in sewerage, bridges, commercial buildings, earthworth and drainage, streets and roads, and unclassified construction. Increases over a year ago are in industrial and commercial buildings, and earthwork.

New capital for construction purposes for the week totals $687,000, and is made up entirely of state and municipal bond sales. New construction financing for the year to date, $493,400,000, compares with $6,870,550,000 for the 23-week period last year.




### CONTRACTS

**Continental U. S. Only**
(Thousands of dollars)

| | Week Ending June 11 1942 | June 3 1943 | June 10 1943 |
|---|---|---|---|
| Federal | $362,627 | $48,254 | $51,266 |
| State & Municipal | 10,962 | 4,296 | 9,445 |
| Total public | $373,589 | $52,550 | $60,711 |
| Total private | 5,869 | 54,323 | 8,933 |
| TOTAL | $379,458 | $106,873 | $69,644 |
| Cumulative 1943 | (23 weeks) | | $1,668,276 |
| 1942 | (24 weeks) | | $4,590,785 |

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

### NEW PRODUCTIVE CAPITAL

| | Cumulative 1942 24 weeks | 1943 23 weeks |
|---|---|---|
| NON-FEDERAL | $331,595 | $93,050 |
| Corp. Securities | 136,384 | 3,571 |
| State & Mun. | 147,792 | 77,346 |
| R.F.C. loans | 47,419 | 9,000 |
| FPHA loans | ..... | 3,133 |
| Federal | 6,538,955 | 400,350 |
| TOTAL CAPITAL | $6,870,550 | $493,400 |

### ENR INDEX NUMBERS

| | | 1913 | 1926 |
|---|---|---|---|
| Index Base = 100 | | | |
| Construction Cost | June '43 | 289.94 | 139.37 |
| Building Cost | June '43 | 227.71 | 123.09 |
| Volume | May '43 | 203 | 89 |

# CONSTRUCTION REPORTS

*Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York*
*ELSIE EAVES, Manager* *SCOTT McLEOD, Statistician*
(Daily service also available—Write for details)

*Location of ENR Correspondents*

*Symbols and Abbreviations Include:*

- ♦ Federal Government
- ★ Project of $500,000 or over
- **ENR** Engineering News-Record
- **CD** Engineering News-Record Construction Daily
- **A-E-M** Architect—Engineer-Management type of contract.

*Projects—By Size*

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

*Classes of Construction*

(Named in order of Listing)

| | |
|---|---|
| Water Supply | Unclassified |
| Sewers, Waste Disposal | Latin America |
| Bridges, Grade Crossings | Public Buildings |
| Streets & Roads | Commercial Buildings |
| Earthwork, Waterways | Industrial Buildings |

*Stages Reported*

PROPOSED: (except Streets & Roads):

BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR):

LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

**Note:** To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld. The name of contractor and general area are reported.

## WATER SUPPLY

### PROPOSED WORK

**Tex., Cuero**—J. T. Newman, mayor, *WW, sewers, $73,800. Applied for FWA funds. Terrell Bartlett Engineers, Smith-Young Tower Bldg., San Antonio, engrs.

**Tex., Childress**—C. D. Jones, mayor, waterworks. $82,822. Applied to FWA. D. T. M. Davis, Childress, and J. Ward, Witchita Falls, engrs.

**Tex., Fort Worth**—City, c/o Mayor, 5 m.g. underground reservoir for north side of city. Freese & Nicholas, Capps Bldg., engrs.

**Tex., Houston**—J. N. Edy, city mgr., drilling, developing 3 water supply wells. $100,000. J. C. McVey and L. Fugate, c/o City Eng. Dpt., engrs. H. E. Elrod, Petroleum Bldg., Houston, W. W. Horner, Shell Bldg., & S. W. Jens, 536 Purdue St., St. Louis, Mo., consult. engrs.

**Tex., Pasadena** — Waterworks plant bldg. $15,000.

**Tex., San Antonio**—San Antonio State Hospital, S. Presa St., imprv. water, sanitary sewer lines, bldgs., reconditioning, etc. $50,000. Phelps, Dewees & Simmons, Majestic Bldg., archts.

**†Washington**—U. S. Eng., $10 3rd Ave., Seattle, water control sys. for water supply. Inv. 561.

**Wis., Shorewood** and **Whitefish Bay**—Villages, survey to determine feasibility, cost and territory to be served by proposed water district. H. A. Schmitt, Shorewood, and R. H. Cahill, Whitefish Bay, village engrs.

### BIDS ASKED

*Bids Asked About June 15*

**Mass., Springfield**—City, Pub. Bldgs. Dpt., water shower, Classical High School. $15,000. McClintock & Craig, 455 Bridge St., engrs.

*Bids Asked June 15*

**N. Y., Hudson**—Dpt. P. Wks., Dr. C. G. Rossman, comr., City Hall, water pump. sta., appurtenant imprvs. Plans deposit $10. Whitman, Requardt & Smith, 11 N. Pearl St., Albany, consult. engrs.; adv. ENR 6/10. CD 3/2—ENR 2/4.

*Bids Asked About June 16*

**†La., De Ridder** — City, C. R. Middleton, mayor, imprv. WW sys., La. 16-102. $275,000. **FWA.** A. F. Rideout, De Ridder, engr. CD 5/28—ENR 6/3.

*Bids Asked June 16*

**Ill., Vandalia**—City, F. A. Meyers, mayor, watermain extens., etc. Plans deposit $10. Engineering Service Corp., Decatur Club Bldg., Decatur, engrs.

### LOW BIDDERS

**Calif., San Francisco**—City, Pub. Utilities Comn., City Hall, June 1, 16 in. c.i. watermain in Quesada Ave. and Griffith St., from W. J. Tobin, 5708 Glenbrook Dr., Oakland, **$29,083.** CD 5/26.

**†Ind., Odon**—Federal Works Agency, 20 N. Wacker Dr., Chicago, Ill., May 31, WW imprvs., installing new water distr. lines, Docket Ind. 12-172, from Curry Constr. Co., 200 E. 3 St., Bloomington, Ill., base bid, gravel wall well, **$14,975.** CD 5/27—ENR 1/14.

**†Md., Hyattsville** — Washington Suburban Sanitary Sewer Comn., Hamilton St., May 28, Contr. 6, 5,960 ft. 6- to 20-in. c.i. watermains, Md. 18-175, from Leo Butler Co., 8416 Ga. Ave., Silver Springs, Md., **$69,552.** CD 5/20—ENR 5/27.

**†Mich., Detroit**—Dpt. Water Supply, 735 Randolph St., 16 in. watermain pipeline exten., Mich. 20-185 from R. D. Baker, Box 8, College Park Sta. **FWA.**

### CONTRACTS AWARDED

**†California**—U. S. Eng., 74 New Montgomery St., San Francisco, filtration plant, San Francisco Co., to Central California Constr. Co., Inc., 230 California St., San Francisco. Awarded 6/1.

**†Colorado** — U. S. Eng., 1709 Jackson St., Omaha, Neb., pipeline and water supply sys., Contr. 643-Eng. 4139, Eagle Co., to Frank T. Spillane, Lakewood, under **$50,000.**

**†Florida**—U. S. Eng., 575 Riverside Ave., Jacksonville, water and sewage facilities, Neg. Jax 43-929, Lake Co., to Stansfield Constr. Co., 5815 Bayshore Blvd., Tampa, under **$50,000.** Awarded 5/28.

**†Florida**—U. S. Eng., 575 Riverside Ave., Jacksonville, water and sewage facilities, Neg-Jax-43-972, Lee Co., to Moody Brothers Plumbing & Heating Co., Fort Myers, under **$50,000.** Awarded 5/24.

**†Florida**—U. S. Eng., 575 Riverside Ave., Jacksonville, water distr. and sewage disposal sys., Neg-Jax-43-883, Palm Beach Co., to C. Coston, West Palm Beach, under **$50,000.** Awarded 5/24.

**†Florida**—U. S. Eng., 575 Riverside Ave., Jacksonville, water and sewage facilities, Neg-Jax-43-930, Pinellas Co., to M. R. Vaughn, 6918 Orange Blossom Ave., Tampa, under **$50,000.** Awarded 5/26.

**†Florida**—U. S. Eng., 575 Riverside Ave., Jacksonville, water and sewage facilities, Lee Co., to Moody Brothers Plumbing & Heating Co., Fort Myers, under **$50,000.** Awarded 5/24.

**Ill., Galesburg**—City, sinking deep well, installing equip., to Thorpe Well Co., 2340 6 St., Des Moines, Ia., **$41,997;** concrete elevated tank, 750,000 gal. pump house, installing equip., piping, electrical work, watermains, to MacDonald Eng. Co., 1 N. La Salle St., Chicago, **$198,227.** Bids 5/28, awarded 6/1. CD 5/17—ENR 5/20.

**Ky., Hopkinsville** — State, c/o Dr. A. M. Lyons, dir., State Hospital & Mental Hygiene, water filtration plant and distr. sys., to E. H. Marhoefer, Jr., 222 W. N. Bank Dr., Chicago, Ill., **$72,855.** CD 3/2—ENR 3/4.

**†Montana**—U. S. Eng., 800 3 Ave., Seattle, Wash., drilling 2 wells, Cascade Co., to W. A. Hale, Cutbank, under **$50,000.**

**†Montana**—U. S. Eng., 800 3 Ave., Seattle, Wash., drilling wells, Glacier Co., to W. A. Hale, Cutbank, under **$50,000.**

**†New Jersey**—Eclipse Aviation Corp., Bendix, electrical work for pump. sta., etc., to E. Fred Sulzer, 27 Union Ave., North Cranford. Federally financed. CD 5/11—ENR 5/13, under CA.

**†Ohio**—U. S. Eng., Wright P... water line, Contr. 194..., Eng-42... Co., to Crumley-Jo...s-Crumley... Ash St. and Hegner Dr., Pk., Cin... **$50,000.**

**Utah, Salt Lake City**—City, c... city engr., City and County B... concrete reservoir, to Enoch ... Constr. Co., 567 I St., **$74,968.** ... Bids 5/25. CD 5/19.

**Wash., Bremerton**—City, C. C... supt., City Hall, 1½ mi, 16 in. ... along Warren Ave., force account.

**Alta., Lethbridge** — 650,000 ... water reservoir, sewage disposal ... sewers and watermain extens., ... der supervision Jas. Haines, engr. **$131,000.** CD 2/16—ENR 2/18.

**B. C., Saanich**—Dist. of Saanich, P. O., Vancouver Island, 350,000 ... reservoir, 30 hp. electric motor ... trifugal pump, own forces, **$16,000** —ENR 7/2/42.

## SEWERS, WASTE DISP...

### PROPOSED WORK

**†Conn., Bridgeport**—City Hy... Schwarzkopf, City Hall, Contr. 6, ... Seaview and Connecticut Aves., ... Over **$25,000. FWA.** H. L. R... Hall, engr.

**†Georgia**—U. S. Eng., 512 Spri... Atlanta, bids soon, incinerator ... & Co., Bona Allen Bldg., Atlanta.

**Mich., Grosse Pointe** (br. Detr... making plans storm water pu... pumps, piping connections, at G... Woods. Over $25,000. Pate & Hir... gan Bldg., Detroit, engrs.

**†Miss., Pascagoula**—City, W. G... addnl. sewerage facilities. **FWA.**

**N. M., Bayard**—L. Peipelman, ma... age sys. $48,813. Applied for F... Koch & Fowler, 600 S. Akard St., ... engrs.

**N. Y., Flushing**—President Q... 120-55 Queens Blvd., Kew Gardens ... sewer in Aguilar Ave. from 72 A... sena Blvd.; Kissena Blvd. from A... to 71 Ave.; 71 Ave. from Kissena ... 157 St. $82,600.

**†Rhode Island**—Pub. Housing A... 24 School St., Boston, Mass., bids ... age disposal and sewerage sys., ... $60,000. C. Maguire, 1515 Turks ... Providence, engr.

**Tex., West Columbia**—W. M... mayor, sewer imprvs. $89,500. ... FWA. Garrett Eng. Co., 2504 A... Fort Worth, engrs.

**Ont., Howard**—Howard Tw... scheme. $25,000. J. M. McGregor ... engrs.

**Que., St. Hyacinthe**—Municipal... David, clk., collector sewerage ...

**Que., Valleyfield**—City, R. B... exten. sewer and watermains, ... ft. piping. $60,000.

### BIDS ASKED

*Bids Asked June 1...*

**†N. J., Long Branch**—City, 16... 30-in. sewer line. **FWA.** Bids ... CD 6/3 under LB—ENR 5/20.

**Ont., St. Catherines**—Mrs. K. V... Granthane Twp., 148 King St., ... 8- to 24-in. sewers, to serve John ... other nearby streets incl. T... Perry, Mildred and Scott Sts. ...

*Bids Asked About June ...*

★**†La., De Ridder**—City, C. R... mayor, imprv. sanitary ... probably some storm sewers. ... 16-102, $512,425. **FWA.** A. F. ... Ridder, engr. CD 5/28—ENR ...

*Bids Asked June 17*

**Conn., Bridgeport**—City, Hy... Hall, 7,656 ft. 8- to 21-in. sanit... Clark, Thorme and Ruth Sts. ... land. City Hall, engr.

*Bids Asked June 21...*

**†Tex., Fort Worth**—S. H. Both... Contr. 2, sewer tunnel, Tex. 41-... Former contractor defaulted. **FW...** Nichols, Capps Bldg., engrs. ... 4/1 under CA.